

To: Sarah Hatch – EPA
Christopher Clayton – DOE/FUSRAP
Fr: Harvey Ferdman (Office of Representative Bill Otto, MO 70th)
Re: West Lake Landfill – Radioactive Contamination
Dt: April 30, 2013

Sarah and Christopher:

Thank you for your interest in protecting the citizens of our district and surrounding area. I hope you find the following helpful in bringing the Radioactively Impacted Materials (RIM) currently stored at the West Lake Landfill in St. Louis MO to a logical and safe status.

Background:

There has been an on-going disagreement between the community and EPA regarding the nature, and therefore the toxicity, of the Radioactively Impacted Materials (RIM) currently stored at the West Lake Landfill in St. Louis MO.

State Representative Bill Otto (MO District 70) was contacted shortly after his election by a citizen who was alerted to the presence of the RIM in her neighborhood after researching the source of an obnoxious smell in her neighborhood and finding out that it was coming from a sub-surface smoldering event adjacent to the RIM. After conversations with citizens on this matter, Representative Otto asked one of his advisors, Harvey Ferdman of Chesterfield, MO, to help out with this matter. This report has been prepared by Harvey Ferdman (314-469-0595).

Summary:

An explanation as to how well-meaning people could end up on opposite ends of the "facts" has been found in an AEC document* in which the cover letter leads one to conclude that the RIM was diluted with non-RIM soil, but the attached Inspection Report clearly states that the soil used for dilution was RIM.

Therefore, it appears that the soil used to "dilute" the Barium Sulfate dumped at West Lake Landfill was radioactive, which is in direct contradiction to EPA documents and statements.

Please address the following. With respect for your time, please address #1 and #2 first.

- 1.) The 39,000 tons of top soil thought to dilute the 8700 tons of barium-sulfate at West Lake Landfill is really radioactive materials that are the leftovers of Congo and Colorado Raffinate after the bulk of them were shipped offsite, plus the top 12-18 inches of the soil they were sitting on (see bottom of page 4 and top of page 5 of AEC Inspection Report*). Logically, this would have included tailings of the Raffinate that had mixed in with the top soil or been too dispersed to be worth shipping out of state.

1-7) Response: It is likely that the soil removed from the Latty Avenue site and mixed with the barium sulfate residue contained residual amounts of the other radiological wastes stored there as identified in the documents Mr. Ferdman provided with this inquiry. However, assuming that the NRC has no more information than is included in these and other documents in EPA's possession, it is impossible to say how much radiological material this soil contained.

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Since the Congo raffinate and Colorado raffinate were valuable enough to justify drying and shipping these materials to Colorado, it is likely that very little of this material was left on-site.

- 2.) The cover letter to the AEC report contains an error in the math that yielded the statement that the barium-sulfate was dilute to 0.0001% (see math below). This number should have read 0.01%** or 100 to 150 times higher than EPA reports, AND THIS CALCULATION ASSUMES NON-RIM SOIL WAS USED, WHICH IS NOT WHAT WAS USED*

Response: Mr. Ferdman is correct that the NRC made a mathematical error on the first page of its November 1, 1974 letter to Cotter Corporation when it calculated the uranium concentration in the mixture of leached barium sulfate residue and soil as 0.0001%. Mr. Ferdman's calculations of the percentage below are correct. Regardless of the percentage calculation, the *amount* of uranium in this mixture (seven tons) has been consistently reported by NRC and EPA and is not in question.

2-) Most importantly, EPA has extensive analytical results for the materials actually present in West Lake Landfill, as reported in the Remedial Investigation Report, the Record of Decision, and other documents in the Administrative Record. The actual site conditions, analytical results and risk assessments form the basis for EPA's decision-making at the site.

- 3.) There appears to be an additional 350 T of "miscellaneous residues containing about 2 tons of uranium" that may have ended up at West Lake.

3-) Response: According to the NRC's November 1, 1974 letter to Cotter Corporation, in the last paragraph on page 4, "The only residue then remaining at the site was the 8700 tons of leached barium sulfate." In the context of this paragraph, this was the condition at the site just prior to mixing the leached barium sulfate with the surface soils at the Latty Avenue site. While not explicitly accounted for in the NRC's letter, these miscellaneous residues were apparently not included in the materials sent to the West Lake Landfill. DOE may have further information on the disposition of these miscellaneous residues.

- 4.) In the Inspection Report (#2 on page 3) there is a list of the original materials from the Airport Site that were offered for bid in 1964, and subsequently, portions of this material were shipped to the Latty Avenue site. Included in the original materials list were: "1500 tons of barium sulfate cake (unleached) containing about 22 tons of barium sulfate cake (leached) containing about 7 tons of uranium; and approximately 350 tons of miscellaneous residues containing about 2 tons of uranium."

a. Is there an explanation for how 1500 tons of barium sulfate, mostly unleached, became 8700 tons of leached barium sulfate? Note that the reference for the 8700 tons of leached barium sulfate came from Cotter Corporation representatives (see Inspection Report* page 4, last paragraph) and may not have had any other documentation.

a- Response: EPA has no independent information on this subject. Clarification would have to come from DOE and/or Cotter Corporation. EPA notes that NRC refers to these materials using subtly different names (1500 tons barium sulfate cake [unleached] versus 8700 tons of leached barium sulfate).

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5.) Note: I was able to obtain copies of invoices from B & K to Cotter showing that 48,538 tons of materials were shipped from Latty to the landfill; 10758 tons were shipped by rail; and 10,753 tons of materials were brought in. It appears that this material was used to backfill the site after the removal of the 39,000 tons of the top 12-18 inches of RIM soil – see Inspection Report* page 6 – which states that this was done before any surveys were done (see *** below).

5.) Response: Noted.

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*U. S. Atomic Energy Commission RO Inspection Report No. 040-8035/74-01 for an inspection performed April 10 and 21-24, 1974

**It appears that the AEC Nov 1, 1974 document cover letter was in error in stating the following:
"... about 8700 tons of leached barium sulfate containing about seven tons or averaging about 0.08% natural uranium was scooped up for disposal with approximately 39,000 tons of soil, and the resulting uranium concentration was about .00001%."

Here's the math:

7 tons U / 8700 tons = 0.0008 or 0.08%

Add 39000 tons of "soil" = 47700 tons

7 tons U / 47700 tons = 0.0001 or 0.01% (rounded) = 100 times previously stated level

7 tons U / 47700 tons = 0.00015 or 0.015% = 150 times previously stated level

*** Ryckman/Edgerley/Tomlison & Associates, Inc. report RETA-780 dated May 1, 1974 showing the site layout and MR/hr. readings after backfilling

Your prompt attention to this matter is appreciated. I would like to set up a conference call to go over this with you at your earliest convenience. Please call on me if I can be of assistance in any way.

Sincerely,

Harvey Ferdman

Policy Advisor to

Missouri State Representative Bill Otto, District 70

St. Louis, MO 63017

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